



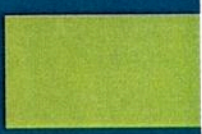
Grenada

Manufacturing, LLC

Grenada, Mississippi

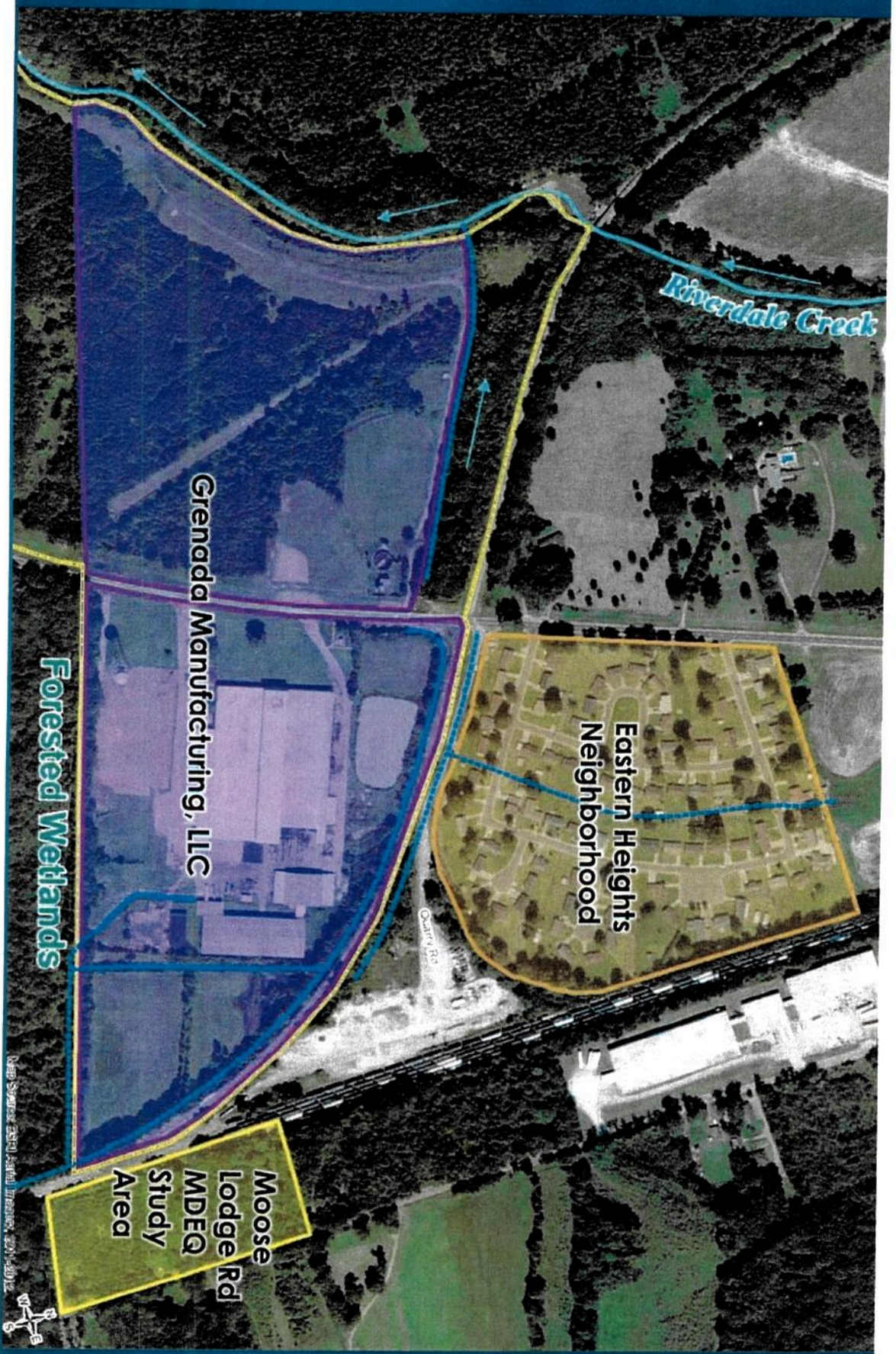
JANUARY 2017 UPDATE

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION 4
RESOURCE CONSERVATION AND RESTORATION DIVISION
JANUARY 31, 2017



This Presentation Will Cover:

- What EPA is doing in Grenada
- Sampling and results inside the Facility and actions taken
- Health information for workers
- Sampling and results in Eastern Heights
- Next Steps
- External Partners and Technical Support
- Q&A



Map Source: Aerial Imagery, 2011-2012

What EPA is doing in Grenada



- Overseeing cleanup of the former Grenada Manufacturing, LLC facility
 - Former wheel cover manufacturer (1961 – 2008)
 - Current operator, Ice Industries, is a metal stamping facility
 - Grenada Manufacturing, LLC, the permittee, is bankrupt
 - Meritor conducts environmental work
 - Textron provides financial assurance
 - LLC, City of Grenada, Grenada County all own portions of land

What EPA is doing in Grenada

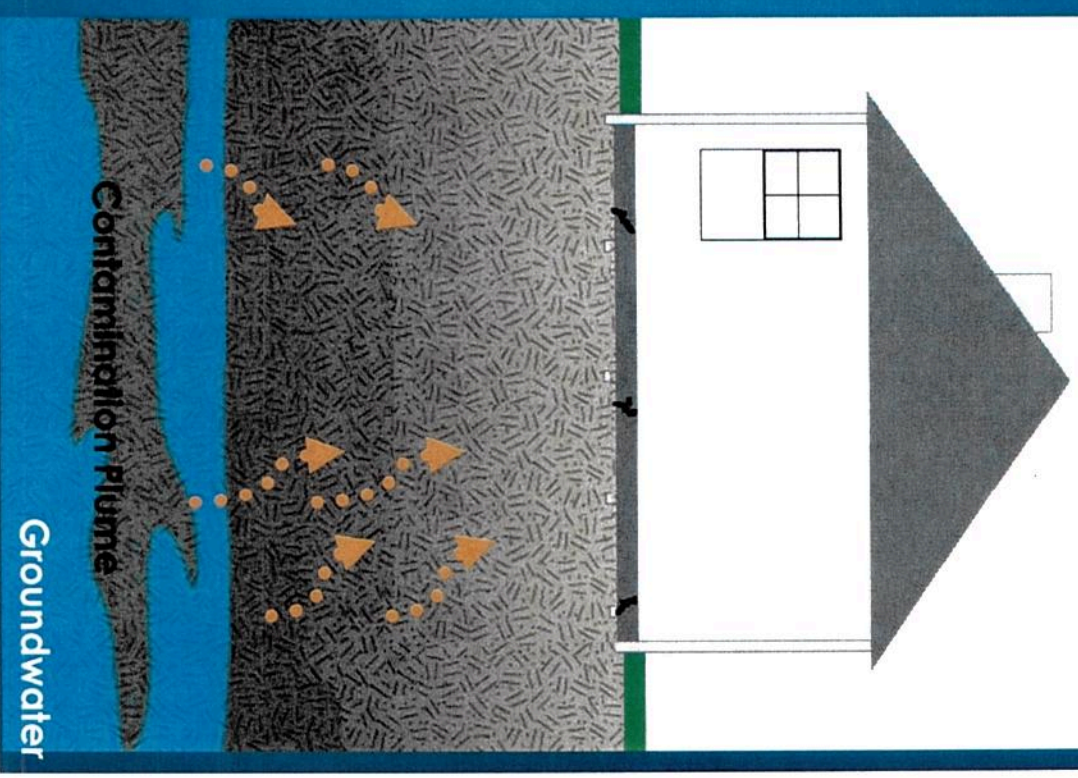


- Primarily concerned about TCE contamination
 - TCE is a non-flammable, colorless liquid used as a solvent for cleaning metal parts
 - It is a common groundwater contaminant and can remain a long time
 - TCE evaporates from surface water and is commonly found as a vapor in air
 - Health effects of TCE depend upon the pathway, amount, and time length of exposure to the chemical

Vapor Intrusion

Can depend on:

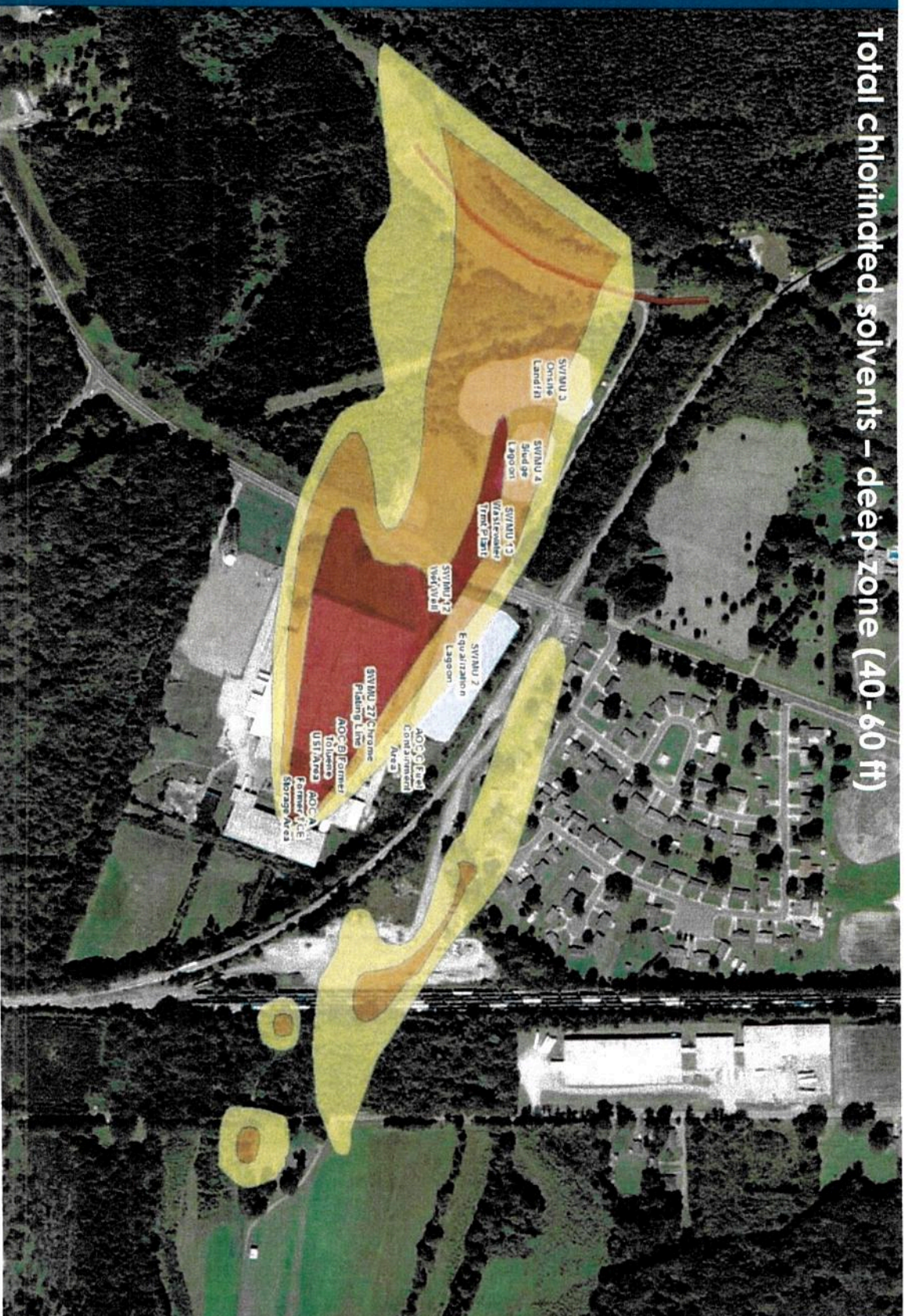
- Contaminant and concentrations
- Depth to groundwater
- Soil type
- Type of foundation/Integrity
- Air temperature
- Barometric pressure



What EPA is doing in Grenada

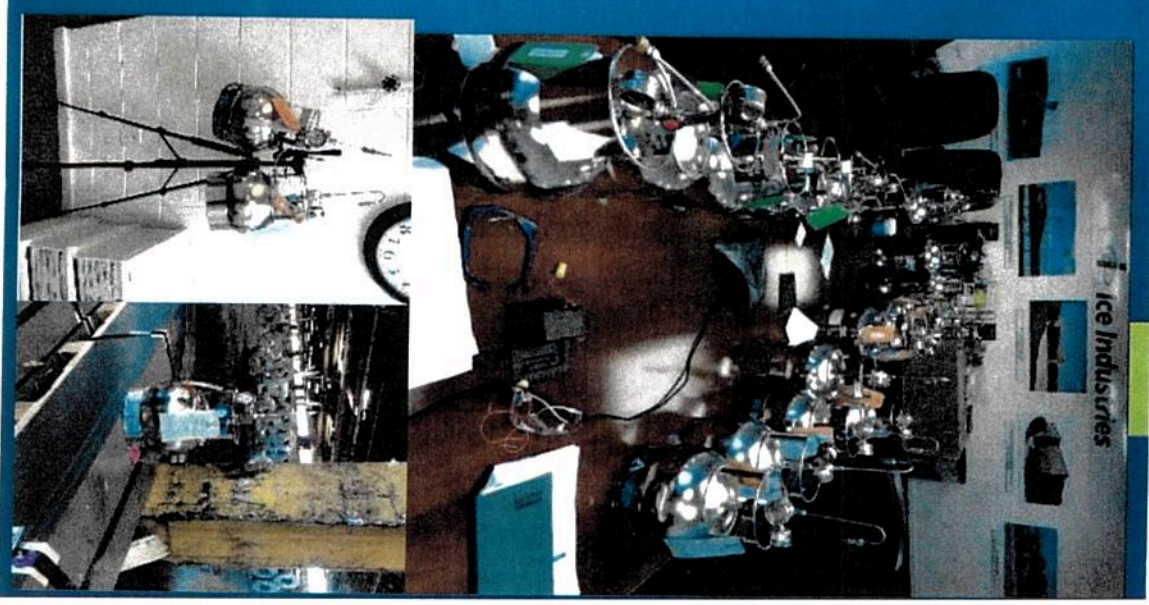
- Sampling for TCE contamination in the neighborhood
 - Results indicate no immediate threat to public health
- Sampling for TCE contamination inside the Facility
 - Workers notified of elevated TCE concentrations
 - Immediate actions taken at the Facility to reduce worker exposure

Total chlorinated solvents – deep zone (40-60 ft)



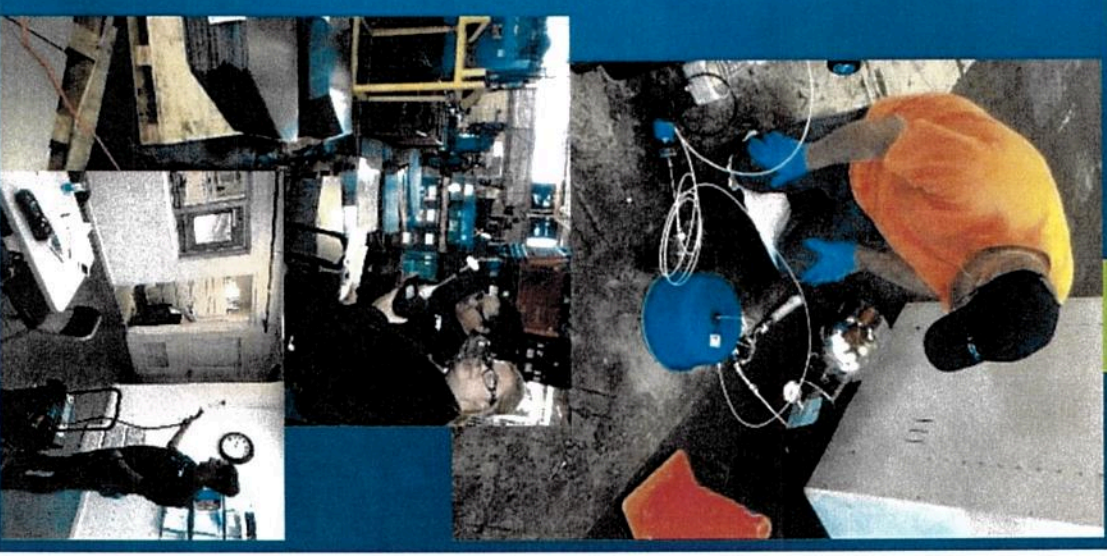
Facility Sampling

- EPA oversaw the sampling performed by the Facility's contractor (Meritor) during the week of October 24, 2016
- On January 3, 2017 EPA received results showing elevated levels of TCE in the Facility's indoor air and areas beneath the concrete foundation



Facility Results

- TCE exceeded the screening level in all indoor air samples
- 5 of 6 sub-slab air samples exceeded the screening level for TCE
- 5 of 11 indoor air samples exceeded EPA's action level for sensitive populations
- One indoor air sample exceeded EPA's action level for non-sensitive populations



Immediate Actions at the Facility

- EPA directed Facility to notify employees
- EPA directed Facility to increase ventilation to reduce indoor air concentrations of TCE
- EPA oversaw a second round of sampling during the week of January 16, 2017
 - Real-time air monitoring indicates the indoor air levels were lowered based on the interim actions taken

Facility Next Steps

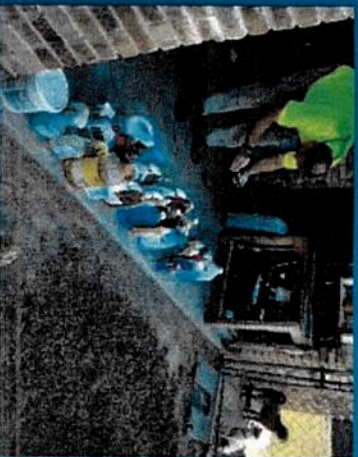
- Intermediate measures to address the sub-slab TCE concentrations are being evaluated
- EPA is also working with Facility on long-term measures to treat and eliminate TCE in groundwater (the source)

Health Information for Workers

- If you believe you have been exposed to TCE related to the Facility, consult your doctor
- ATSDR has TCE information available for doctors in Mississippi that explain how it affects your health
- Doctors can contact
 - Mississippi Poison Control Center: (601) 984-5577 or (800) 222-1222
 - Bruce Brackin, MSDH: (601) 576-7725
 - Leann Bing, ATSDR: (404) 562-1784

Neighborhood Sampling

- ▶ September 2015 Residential indoor/outdoor/sub-slab air and groundwater
- ▶ January 2016 Outdoor air
- ▶ March 2016 Residential indoor/outdoor/sub-slab air
- ▶ April 2016 Soil, sediment and groundwater
- ▶ May 2016 Residential indoor/outdoor/sub-slab air
- ▶ September 2016 Residential indoor/outdoor/sub-slab air
- ▶ November 2016 Residential indoor/outdoor/sub-slab air

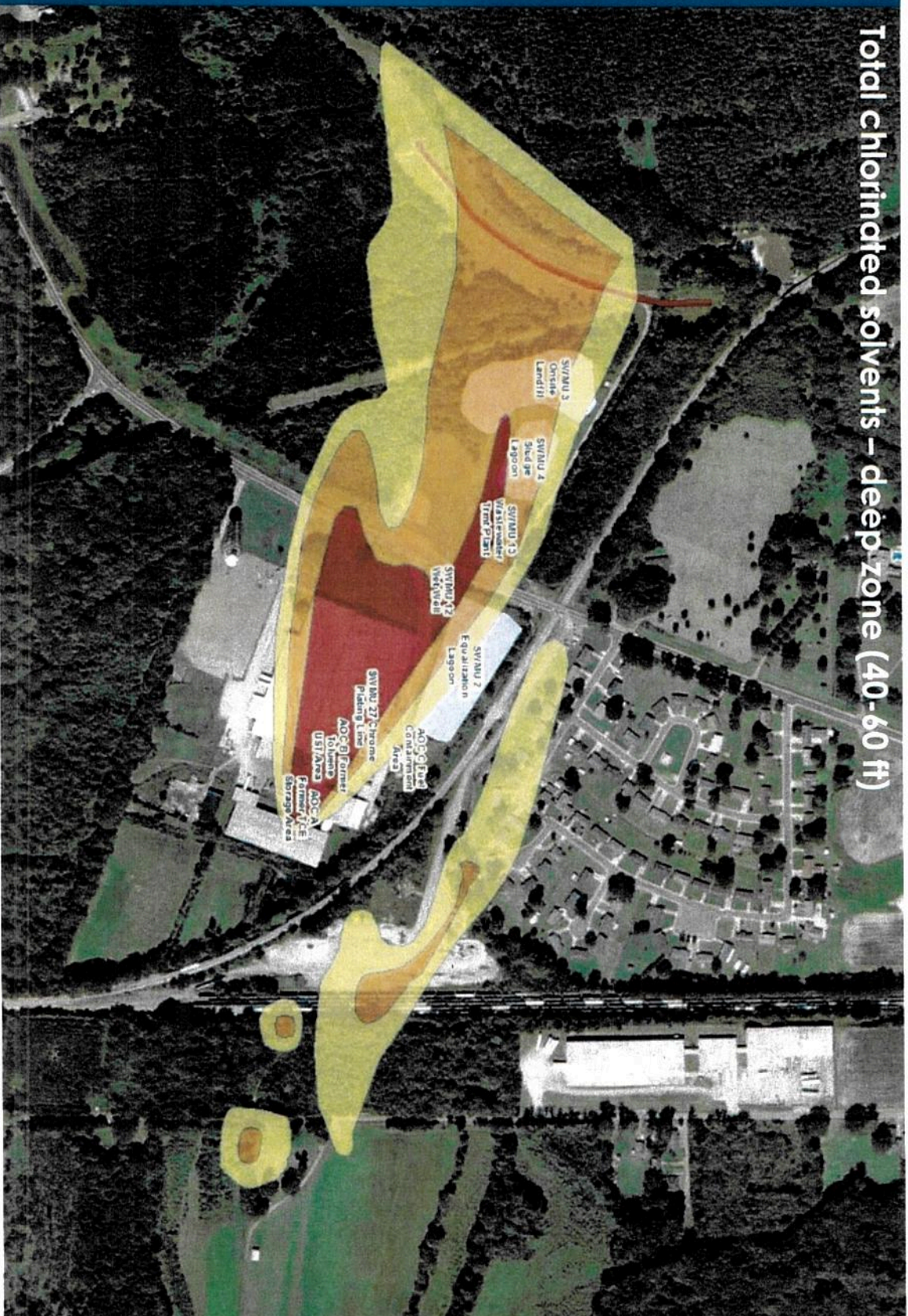


Neighborhood Results

- Groundwater contaminated with TCE underlies the southern portion of the neighborhood
- No one is exposed to the groundwater because it is not a source for drinking water
- EPA did not encounter evidence of buried waste material in any of the 18 soil borings in the neighborhood



Total chlorinated solvents – deep zone (40-60 ft)



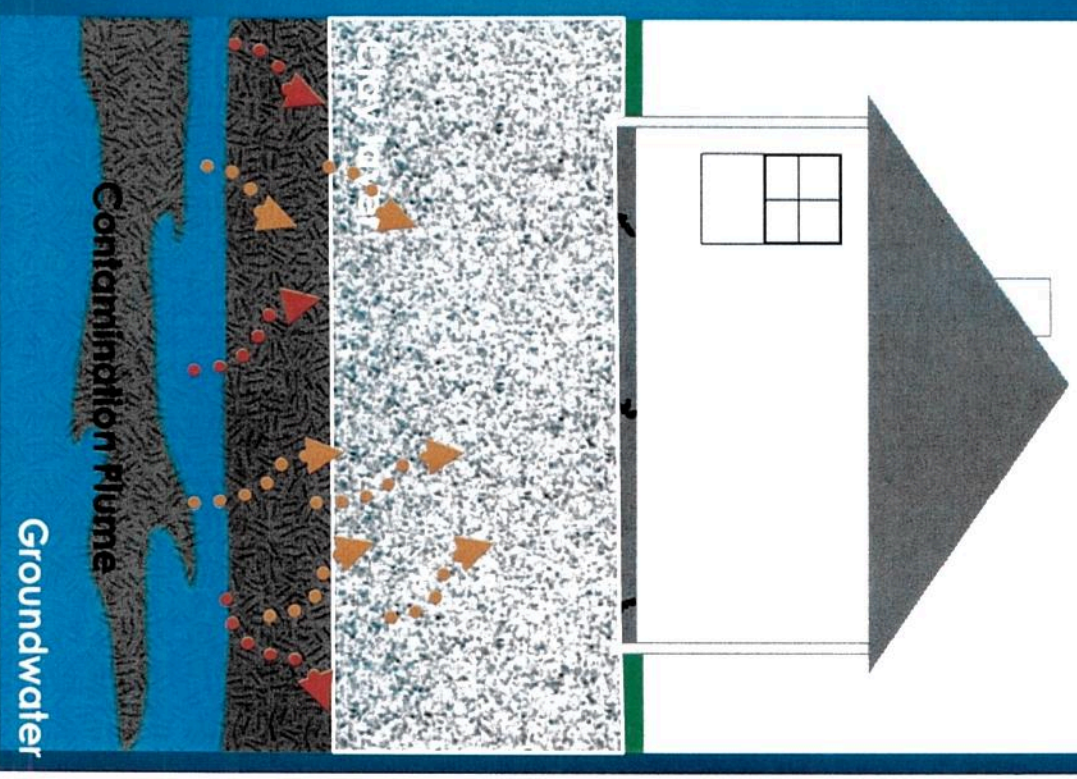
Neighborhood Results



- TCE detected in homes and outdoor air in warmer months
- With one exception, TCE has not been detected in residential sub-slab air
- Based on this, we believe that TCE is not likely entering homes from a below-ground source (e.g. groundwater), but rather through exchange with outdoor air
- Multiple sampling events have not identified the exact source or sources of TCE in outdoor air
- More sampling is planned to identify the source

Neighborhood Results

- An 8'-12' silty clay layer underlies the neighborhood
- We believe this silty clay is preventing TCE vapors from coming up into homes

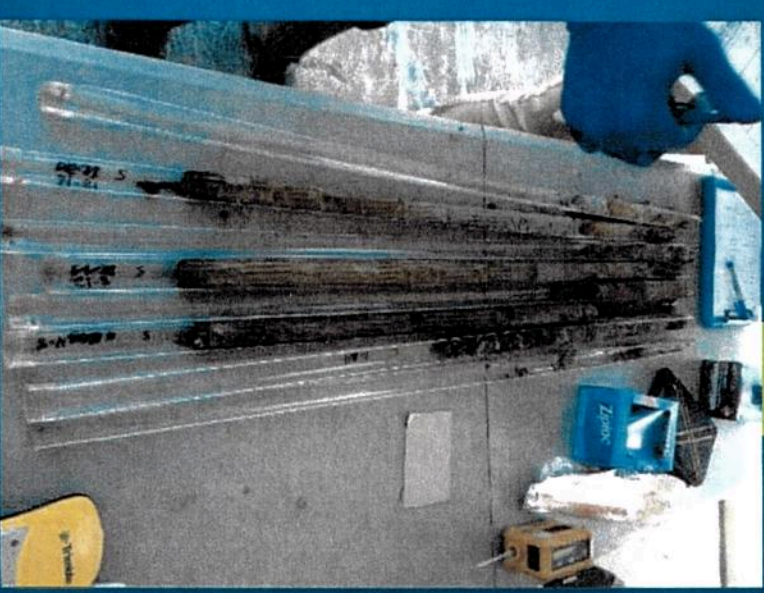


Is Relocation Being Considered?

- ▶ EPA has determined there is no immediate threat to public health and is not considering relocation of any Eastern Heights residents
- ▶ Relocation decisions guided by National Superfund Permanent Relocation Interim Policy (July 8, 1999) and applies only in cases where:
 - Structures must be destroyed because they interfere with a cleanup
 - Structures cannot be decontaminated to protective levels
 - Response options require unreasonable use restrictions
 - A temporary relocation would last more than one year
- ▶ None of these conditions exist in Eastern Heights

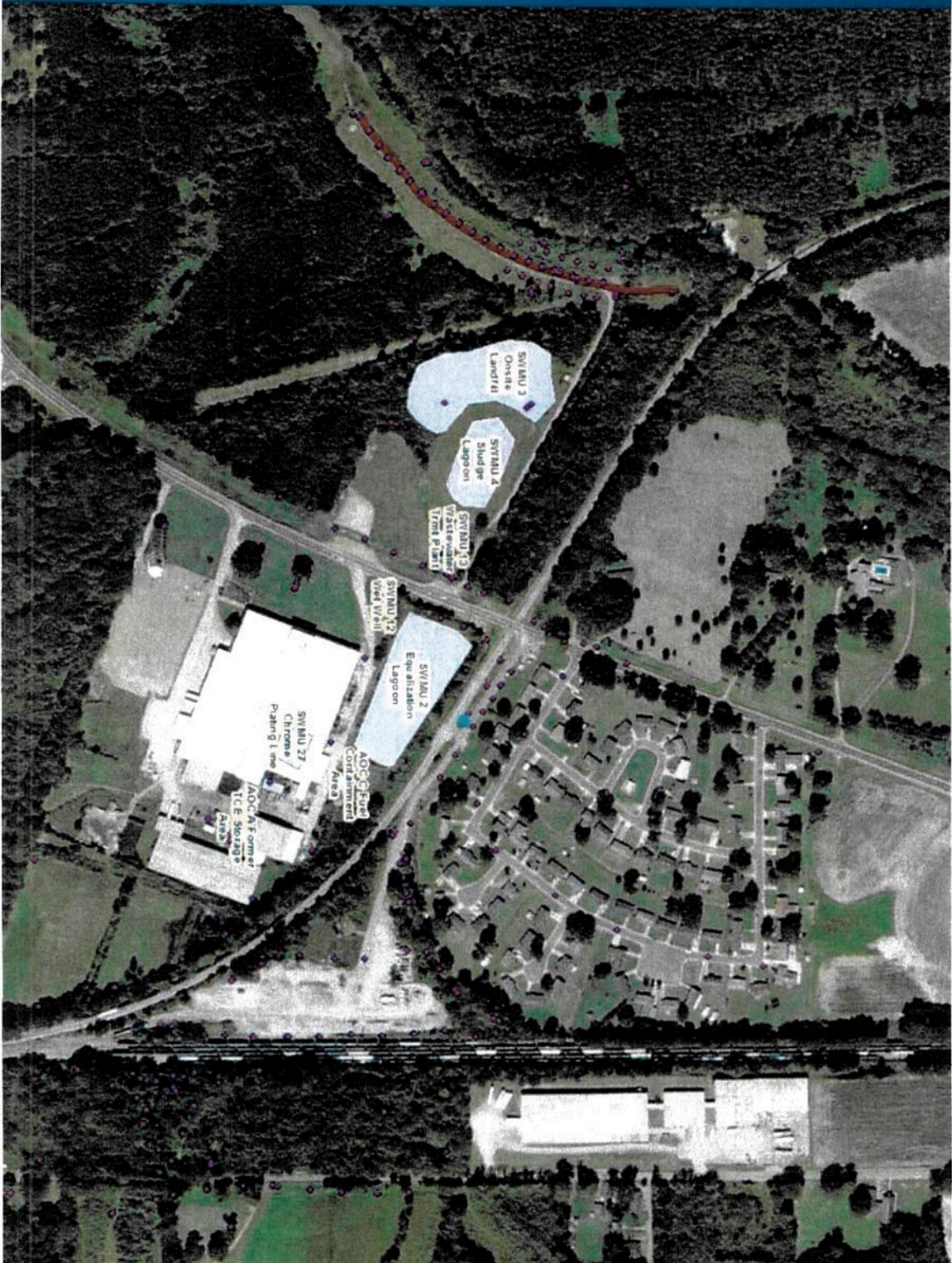
Playground Results

- Surface soil at the playground was sampled in areas where children were most likely to come into contact
 - like beneath the swings and at the bottom of the slide
- No TCE or TCE-related chemicals were detected in the soil at the playground
- No elevated metals or organics were detected



Next Steps

- Additional ambient air sampling in neighborhood
- Continued work on Permeable Reactive Barrier and TCE source areas at the Grenada Stamping facility
- Intermediate and long-term actions to address indoor air in facility
- Address groundwater contamination beneath the Eastern Heights neighborhood



External Partners and Technical Support

- ▶ Agency for Toxic Substances and Disease Registry (ATSDR)
- ▶ Mississippi State Department of Health
- ▶ MDEQ
- ▶ EPA Environmental Response Team
- ▶ EPA Office of Research and Development (Oklahoma)
- ▶ OSHA

For More Information

All Fact Sheets, reports and analytical data are available on our website:

[www.epa.gov/grenada
cleanup](http://www.epa.gov/grenadacleanup)

[Home](#)
[About EPA](#)
[Environmental Topics](#)
[Laws & Regulations](#)
[Newsroom](#)
[Contact Us](#)

Grenada Manufacturing, LLC, Facility Cleanup and Environmental Study in Grenada, MS

An environmental study is underway in and around Eastern Heights in Grenada, MS to evaluate the possibility that contaminants may be traveling from the former Grenada Manufacturing, LLC, facility (formerly known as a Stamping and Metalworking manufacturing company). EPA became aware of the potential for contamination while developing a cleanup of the Facility under the Resource and Conservation Recovery Act (RCRA) program.

This study is part of a pre-auditing approach to protect public health and the environment. Based on results received to date, EPA has determined that there is no immediate threat to public health in the Eastern Heights neighborhood due to trichloroethene (TCE).

EPA Response

- What EPA is doing in Eastern Heights, Grenada, MS.
- What the Grenada Manufacturing, LLC, Facility is doing in Grenada, MS.
- Sampling Results in the Eastern Heights Neighborhood, Grenada, MS.
- Sampling Results at the Grenada Manufacturing, LLC, Facility.

Fact Sheets and Presentations

- A TSCA Answers to Health Questions
- Information About Your Tap Water
- January 2017 Air Study at Grenada Stamping Plant Sheet
- September 2016 Grenada Manufacturing, LLC, Feb 2016 EPA Sampling Activities Fact Sheet

Questions about Grenada Manufacturing Cleanup:

- Community Engagement Coordinator
- [EPA Newsletter](#)
- [Feedback from Citizens.gov](#)
- [404-ws@epa.gov](#)
- Tech Policy Council Meeting Email Contact
- Basket Feedback@epa.gov
- Hot Line 800.424.6342

Press Inquiries:

[Grenada Manufacturing](#)
[environmentalcleanup@gov](#)
 404-ws@epa.gov

Press Release:



CITY OF GRENADA **COMMUNITY FORUM** FOR ENVIRONMENTAL CONCERNS

TUESDAY, JANUARY 31
6:00 P.M.

GRENADA CITY HALL – CITY COUNCIL CHAMBER
108 S. MAIN STREET, GRENADA, MS 38901

The City of Grenada will be hosting a community forum with representatives from the Environmental Protection Agency (EPA) to discuss recent findings of elevated levels of the chemical trichloroethylene (TCE) at the Grenada Stamping (Ice Industries) plant. Additionally, the EPA will be addressing the concerns of the Eastern Heights Community. This is an opportunity to learn about any health concerns that you may have and an opportunity to plan for next steps for the EPA in the Grenada community.

FOR MORE INFORMATION CONTACT: THE CITY OF GRENADA – 662-226-8820

Pressley, Miriam

From: Holtzclaw, Brian
Sent: Wednesday, March 8, 2017 4:02 PM
To: Pressley, Miriam
Subject: FW: Flyer for Grenada Forum - Jan 31st
Attachments: removed.txt; Flyer - City of Grenada Community Forum with EPA.docx

From: Holtzclaw, Brian
Sent: Friday, January 27, 2017 11:03 AM
To: Ajanaku, Abena <ajanaku.abena@epa.gov>
Cc: Newman, Keriema <Newman.Keriema@epa.gov>
Subject: Fw: Flyer for Grenada Forum

Abena: So you are in the loop...

From: Delli-Gatti, Dionne
Sent: Friday, January 27, 2017 11:00 AM
To: Lincoln, Larry; Marraccini, Davina; Norman, Michael; Monell, Carol
Cc: Smith, Stephen; Newman, Keriema; Holtzclaw, Brian; Bastek, Brian; Adams, Glenn
Subject: FW: Flyer for Grenada Forum

FYI – the attached flier has been distributed both in the community and to the facility. Also, a notice ran in the local paper.

There's a contact number at the bottom that I believe is more general in nature. If we have questions I'm happy to pass them on to Trey, the City Manager who is spearheading this effort.

Respectfully,
Dionne

From: Trey Baker [<mailto:trey.baker@cityofgrenada.ms>]
Sent: Friday, January 27, 2017 9:08 AM
To: Delli-Gatti, Dionne <Delli-Gatti.Dionne@epa.gov>
Subject: Flyer for Grenada Forum

Hey Dionne:

Here's the flyer that we'll be using for this community forum. Also, the local paper ran it in today's paper announcing both the Council meeting on Monday and the community meeting on Tuesday. See you next week.

U.S. Environmental Protection Agency

Air Study at Grenada Stamping

Grenada, Mississippi



Fact Sheet #7

January 2017

Introduction

EPA continues to assess potential impacts to human health and the environment resulting from contamination at and surrounding the Grenada Manufacturing, LLC facility (Facility, commonly known as Grenada Stamping and currently operated by Ice Industries). On January 3, EPA received sampling results showing elevated levels of trichloroethene (TCE) in the Facility's indoor air and as well as areas beneath the concrete foundation.

With the concurrence of the Mississippi Department of Environmental Quality (MDEQ), EPA directed Ice Industries to notify workers of the elevated TCE concentrations and implement immediate actions at the Facility to reduce worker exposure. EPA will oversee a second round of air sampling at the Facility during the week of January 16, 2017. More information about EPA's ongoing work to oversee the cleanup of the site is posted online at:

www.epa.gov/grenadacleanup.

Air Sampling Results at Facility (Grenada Stamping)

Chemical	Range of Concentration Detected	Screening Level	Action Level Sensitive Population	Action Level Non-Sensitive Population
Trichloroethene (TCE) (units in ug/m³)				
Indoor Air	6.7 – 29	3	8.8	26
Sub-slab Air	100 – 2,900,000	100	**	**

Notes: The range of concentrations detected are given in units of micrograms per cubic meter (ug/m³).

** There are no action levels for chemicals in sub-slab air because no one is directly exposed to sub-slab air.

Facility Indoor Air Sampling

The Facility's contractor conducted the sampling in October 2016. Indoor air was sampled at 11 locations in both administrative and manufacturing areas of the Facility. Six samples were also taken of the air from beneath the manufacturing building (known as "sub-slab"). Results are summarized in the table and posted on EPA's website. TCE was found to be above screening levels in all indoor areas. Of the sub-slab samples, five were found to be above the TCE screening level. EPA uses screening levels to help determine if further evaluation should take place.

In five indoor air samples collected in the manufacturing areas, TCE was found to be above the action level for sensitive populations (which includes women of childbearing age). In the air near the former chrome plating line, TCE was found to be above the action level for non-sensitive populations (which includes workers at the Facility). Action levels are values used by EPA to identify where an action may be necessary to protect public health and/or the environment.

Be the first to know!

EPA is committed to keeping residents informed about our activities. EPA distributes Community Updates via email in order to share information more quickly. If you would like to be added to the email distribution list, please contact:

Keriema Newman
(newman.keriema@epa.gov)

Worker Health

The health effects of TCE depend upon the pathway, amount, and time length of exposure to the chemical. Long-term exposure to TCE vapors could pose potential health risks.

If you believe you have been exposed to TCE related to the Facility, you may want to consult your doctor. The Agency for Toxic Substances and Disease Registry (ATSDR) has TCE exposure training materials and information available for doctors in Mississippi upon request. The materials explain how you can be exposed to TCE, and how it affects your health. For more information, your doctors can contact:

- o Mississippi Poison Control Center: (601) 984-5577 or (800) 222-1222
- o Bruce Brackin, MSDH: (601) 576-7725
- o Leann Bing, ATSDR: (404) 562-1784

Actions Taken and Next Steps

In the near-term, EPA has directed Ice Industries to increase ventilation inside the Facility to help reduce workers' TCE exposure. This may include such things as opening windows, doors, adjusting the HVAC system to circulate air flow, or installing filters.

The results indicate that TCE may be entering the Facility in the form of a gas from contaminated groundwater and soil beneath the building, a process known as "vapor intrusion." Groundwater sampling conducted over the past three decades show that there is contaminated groundwater underneath the Facility property. Additional indoor air and sub-slab air samples will be collected by the Facility's contractor during the week of January 16, 2017. EPA continues to work with the MDEQ and the Facility to identify long-term measures to reduce and eventually eliminate TCE exposure inside the Facility.

Right: Summa canister used for air sampling inside the Facility in October 2016



2

CONTACTS

EPA Community Engagement Coordinator

Brian Holtzclaw
404-821-0697 (cell)
holtzclaw.brian@epa.gov

EPA Outreach Coordinator

Keriema Newman
404-562-8859 or 404-304-2490
newman.keriema@epa.gov

EPA Technical Project Manager

Brian Bastek
404-562-8511
bastek.brian@epa.gov

FOR MORE INFORMATION

Website

www.epa.gov/grenadacleanup

Information Repository

Elizabeth Jones Library
1050 Fairfield Avenue
Grenada, MS 38902